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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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07/14/2003

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EXAMINER

KANG, JULIANA K

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 07/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/693,803

Applicant(s)

HEIDEMAN ET AL.

Examiner

Juliana K. Kang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2003 and 10 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. Applicant's communications filed on March 11, 2003 and April 10, 2003 have been carefully studied by the Examiner. The amendments made to claims 21 and 25 necessitated the new ground(s) of rejection. Thus, this action is made **Final**.

Claim Objections

2. Claims 14, 15, 16, 17, 19, 20, 24 and 25 are objected to because of the following informalities: the recited limitation "light transmitting channel" in lines 5-6 of claim 14 should be corrected to read "light guide channel" to be consistent with previously recited limitation in line 2 of claim 14.

The recited limitation "its specific value" in line 4 of claim 17 should be corrected to read "said predetermined value."

Claim 16 recites the limitation "the activable element" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Also in claim 16, line 4, the word "a" needs to be inserted before "predetermined value."

Claim limitations in claim 17, "a predetermined value of the physical parameter or chemical compound its specific value..." does not make sense. It is not clear what "a predetermined value," "its specific value," and "the actual value" are referring to.

Regarding claim 19, it appears that "and" is missing between "device" and "enabling" in line 4. Also the recited limitation "the material" does not have proper antecedent basis in the claim. The word "relevant" in line 2 is an indefinite term.

Regarding claims 14, 15, 19, and 24, the recited phrase "and/or" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or "), thereby rendering the scope of the claim(s) unascertainable.

Regarding claim 20, it appears that claimed subject matter is not disclosed in the remainder of the specification. The claims as filed in the original specification are part of the disclosure and therefore, if an application as originally filed contains a claimed disclosing material not disclosed in the remainder of the specification, the applicant may amend the specification to include the claimed subject matter.

Claim 25 recites the limitation of the ratio of three elements in lines 19-22. The word "among" would work better in this case because the word "between" is for comparing two elements.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 25, 14-20, and 22-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 25, the phrase " in case of intensity modulation " renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are

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part of the claimed invention. For the examining purpose, only the limitation before the phrase "in case of intensity modulation" is considered. Also the term "similar" is an indefinite term which makes the claim vague. It also appears that a word (maybe "along") is missing between "modes" and "a."

Regarding claim 24, the recited limitation "said electro-optical layer" makes the claim vague and unclear. It is noted because both the inclusion layer and/or the light transmitting layer can be an electro optical layer, it is not clear which electro optical layer "said electro-optical layer" is referring to.

Also the limitation "said activable light guide device" is recited throughout the claims, but it does not have proper antecedent basis in the claims. It appears to the Examiner that the term is referring to the segments that are activated by the external physical parameter or chemical compound. However, since the light guide device comprises the segments, it is not clear to the Examiner if the term "said activable light guide device" is referring to the entire device or just the segments that are activable.

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 16-19, 21-23 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Duveneck et al (U.S. Patent 6,395,558 B1, as best understood by the Examiner).

Duveneck et al disclose an integrated optical lightguide device (sensor) comprising an optical lightguide device (waveguiding layer b) with a light source and a detector (see column 3 lines 66-67) and a grating with period that is non-constant in a recognition layer wherein the refractive index changes on contact with the chemical compound (see column 3 lines 15-17). Duveneck et al further disclose that the gratings produced by photolithographic procedures and etching techniques (see column 8 lines 9-10). Also there are two types of segments in Duveneck et al, coupling-in and coupling-out gratings). Duveneck et al show channel planar type waveguide. Please note that the method of forming a device is not germane to the issue of patentability of the device itself. Therefore, the recited limitation of the formation of segments and channel in claims 22 and 23 has not been given patentable weight.

It appears that claims 14, 15, 20, and 24 are patentably distinguishable over the prior art, however, because there are numerous claim rejections and objections as

indicated above, the Examiner can not be certain about allowability of the claims until all the rejections and objections are resolved.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

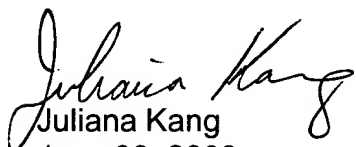
2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Klainer et al (U.S. patent 5,253,037) teach a refractive index type optical sensor (see abstract).


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juliana K. Kang whose telephone number is (703) 305-6259. The examiner can normally be reached on Mondays and Thursday 7:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick can be reached on (703) 308-4819. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-3072.


Juliana Kang
June 30, 2003


Rodney Bovernick
Supervisory Patent Examiner
Technology Center 2800